



# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE

**MEMO**

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**THROUGH** Janine Tulloch-Reid, P.E.  
Manager, Facilities Permitting Section  
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**DATE** December 30, 2020

**RE** Phase II Acid Rain (Title IV) Operating Permit  
Marcus Hook Energy, L.P.  
Marcus Hook Borough  
Delaware County  
Facility ID (ORISPL) Number: 55801

## **I. Introduction**

Marcus Hook Energy, L.P., is a Title V facility located in the Borough of Marcus Hook, Delaware County. The facility owns and operates three combined cycle combustion turbines with a combined electrical output of 750 MW and a 12-cell cooling tower. The construction of this new utility facility, Phase II Units as specified by 40 CFR §72.2, triggered the Acid Rain Program.

The combustion turbines and duct burners are subject to the Acid Rain provisions of the Clean Air Act, Title IV and 25 Pa. Code Section 127.531, Special conditions related to acid rain, including:

- 40 CFR Part 72 - Permit Regulation: Permit Application was submitted in 2003.
- 40 CFR Part 73 - Sulfur Dioxide Allowance System: applicable to the facility.
- 40 CFR Part 75 - Continuous Emission Monitoring: applicable to all turbine units. The CEM requirements had been established during the initial Title V Operating Permit, No. 23-00089

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- 40 CFR Part 77 - Excess Emissions: applicable to the facility.
- The Federal Nitrogen Oxides Budget Trading Program and Clean Air Interstate Rule (CAIR) NOx and SOx Trading Program (40 CFR Part 97), is applicable to the facility as it contains at least one unit serving electric generating units (EGU) of greater than 25 MW and producing electricity for sale.
- Starting January 1, 2015, this facility is subject to the following subparts of the Cross-State Air Pollution Rule (CSAPR), or Transport Rule (TR), as codified in 40 CFR Part 97:

Subparts AAAAA and BBBB (relating to TR NOx annual trading program; and TR NOx ozone season trading program) replaced the CAIR requirements codified in 40 CFR 97, Subparts AA and AAAA (relating to CAIR NOx annual trading program general provisions; and CAIR NOx ozone season trading program general provisions).

Subparts CCCCC (relating to TR SO<sub>2</sub> Trading Program) replaced the CAIR SO<sub>2</sub> requirements, codified in 40 CFR 97, Subparts AAA. This facility is subject to Group 1 SO<sub>2</sub> applicable requirements in 40 CFR Part 97 Subpart CCCCC as the facility is located in Pennsylvania. It must be noted that Title IV SO<sub>2</sub> allowances (Acid Rain Permit Allowances) are distinct from the TR allowances.

Please note that 40 CFR Part 76 – Acid Rain NOx Emission Reduction Program: is not applicable to the facility, as the turbines are fired with natural gas only.

The facility submitted the Certificate of Representation to US EPA and had no Acid Rain Program excess emissions for any compliance year starting in 2004. The Acid Rain reporting IDs for this facility are:

Permit ID	Facility Name	State	Facility ID (ORISPL)	Unit ID	Account Number
Source 101	Marcus Hook Energy, L.P.	PA	55801	0001	055801000001
Source 102			55801	0002	055801000002
Source 103			55801	0003	055801000003

The following table shows a compilation of the total amount of SO<sub>2</sub> emissions emitted from the facility during the 2015 through 2019 calendar years:

Year	Annual SO <sub>2</sub> emissions (tons)
2019	9.5
2018	9.1
2017	11.9
2016	13.8
2015	9.8

## **II. Acid Rain Program**

The Acid Rain Program is a market based allowance trading system. Under this program, all affected units must hold sufficient SO<sub>2</sub> allowances to account for the SO<sub>2</sub> emissions that are emitted by the affected units in each calendar year. This facility has three (3) affected units – Source IDs 101, 102, and 103. Each unit is a 2,282 MMBtu/hr Combined Cycle Gas Turbine with Duct Burner.

Allowances under the program may be bought, sold, and traded by any individual, corporation, or governing body, including brokers, municipalities, environmental groups and private citizens. The EPA maintains an Allowance Tracking System to monitor all allowance transactions.

Each year the EPA also performs an Annual Reconciliation process where a regulated unit's annual emissions and the number of allowances it owns are compared. Units are granted a 60-day grace period to ensure they have sufficient allowances to match their SO<sub>2</sub> emissions during the previous year. If needed, they may buy allowances during the grace period. Likewise, units may sell excess allowances or bank them for use in future years.

Under the Acid Rain Program, owners and operators of each source must select one person to represent them in matters pertaining to the Acid Rain Program and may select a second person to act as an alternate for the first. These people are known as the Designated Representative and Alternate Designated Representative, respectively. Both people must be identified in a Certificate of Representation, submitted to EPA headquarters. A copy of the Certificate of Representation report from the Clean Air Markets Division website was included with this Acid Rain Permit renewal application.

Under the Acid Rain Program, the source must continuously measure and record its emissions of SO<sub>2</sub>. This facility uses a continuous emissions monitoring system (CEMS) for tracking of their SO<sub>2</sub> emissions. Sources report hourly emissions data to the EPA on a quarterly basis.

An Acid Rain Permit renewal must be submitted at least 6 months in advance of the expiration of the Acid Rain Permit.

## **III. Recommendation**

I recommend that the Phase II Acid Rain (Title IV) Operating Permit be issued to Marcus Hook Energy, L.P., located in Marcus Hook Borough, Delaware County.